

Wheeler



EQUIPMENT MANAGEMENT

T-A INSPECTION

CUSTOMER:	CITY OF ELY	DATE:	3/28/2019
LOCATION:	ELY LANDFILL	WORK ORDER:	SL47978
MACHINE MAKE :	CAT	MODEL:	826C
SERIAL #	87X01689	ARR#	9C5312
EQUIP.#		HOUR METER:	24,145
ENGINE MODEL:	3406	SERIAL#	11N09305
ARR #	1005082	OT#	
TRANS SERIAL #	2JF01125	ARR #	3P6809
ATTACHMENT:		SERIAL #	

DIESEL ENGINE ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
ENGINE OIL LEVEL	OK		THROTTLE LINKAGE	OK	
AIR CLEANER AND INDICATOR	OK		OIL COOLER AND FILTER	OK	
INTAKE & EXHAUST MANIFOLD	OK		CYLINDER HEAD	OK	
MUFFLER AND EXTENSION		XX	BLOCK & OIL PAN	OK	
FUEL LINES	OK		ENGINE OIL LEAKS		XX
OIL LINES		XX	ENGINE MOUNTS	OK	
SERVICE ASSEM. & GOV.	OK		S.O.S. SAMPLES	TAKEN	
HIGH IDLE: SPEC	2255+-50		ACTUAL R.P.M. -	2160	
LOW IDLE: SPEC	625+-30		ACTUAL R.P.M. -	722	
STALL SPEED: SPEC	1911+-65		ACTUAL R.P.M. -	1845	
BOOST: SPEC	14 to 20 psi		ACTUAL-	14 PSI	
BLOWBY: SPEC	403 FT/HR		ACTUAL-	MIN	

DIESEL ENGINE SUMMARY

The turbo drain line is leaking at the gasket to the turbo.

The oil pan gasket is leaking at the right side.

The air cleaner cover is bent slightly

The muffler is leaking excessively from the front seam, behind the mounting bracket at the front of the engine.

There has been a recent leak at the left side of the engine, it appears some injector lines have been broke loose at the injector. There is not a leak at this time.

COOLING SYSTEM ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
RADIATOR CAP	OK		BELTS AND PULLEYS	OK	
COOLANT LEVEL		XX	WATER PUMP	OK	
RADIATOR CORE		XX	COOLANT HOSES AND LINES	OK	
HARDNOSE	OK		COOLANT LEAKS		XX
FAN ASSEMBLY	OK		S.O.S. SAMPLE	TAKEN	

COOLING SYSTEM SUMMARY

The coolant filter hose routing to the right side of the engine is rubbing on the AC compressor bracket and the fan drive bracket.

The coolant level is low.

The lower heater hose shut off valve is leaking slightly at the stem.

The fan side of the radiator is partially plugged with debris.

ELECTRICAL ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
ALTERNATOR	OK		LIGHTS		XX
STARTER	OK		WINDSHIELD WIPERS		XX
BATTERIES & MOUNTINGS	OK		CAB HEATER	OK	
WARNING SYS. AND GAUGES	OK		AIR CONDITIONING		XX
WIRING	OK		CAB FAN	OK	
STARTING AID SYSTEM	OK		BACK UP ALARM	OK	
SWITCHES	OK		ECM CODES	NA	

ELECTRICAL SUMMARY

The horn does not work.

The tachometer does not work.

The rear wiper motor spins in the wiper arm splines.

The inside front cab mounted flood light does not work.

The AC does not get very cold.

TRANSMISSION - TORQUE CONVERTER - TRANSFER CASE ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
OIL LEVEL		XX	OPERATION ALL SPEEDS	OK	
OIL COOLER	OK		NOISES	OK	
LINES - HOSES - SEALS	OK		CASE AND COVERS	OK	
CONTROL LINKAGE		XX	MOUNTS	OK	
RETARDER	NA		U-JOINTS AND DRIVE LINES	OK	
OIL LEAKS		XX	S.O.S. SAMPLE	TAKEN	
TRANS. PUMP PRESSURE	370+-10		ACTUAL P.S.I.	390	
CONVERTER STALL SPEED	1911+-65		ACTUAL P.S.I.	1845	

TRANSMISSION SUMMARY

The transmission control linkage is worn excessively.

The transmission filter base is leaking.

The transmission is slightly overfull, some oil has leaked from the breather.

STEERING AND BRAKE SYSTEM ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
FLUID LEVEL	OK		STEERING VALVE	OK	
LEAKS	OK		STEERING GEAR	NA	
LINES, HOSES AND SEALS	OK		HAND METERING UNIT		XX
DRUMS AND ROTORS	NA		CYLINDER PINS & BUSHINGS		XX
BRAKE CONTROLS	OK		FOLLOW UP CYLINDER	NA	
ROTOR CHAMBERS	OK		AXLE PINS AND BUSHINGS	NA	
AIR COMPRESSORS	OK		STEERING CONTROLS	OK	
ACCUMULATORS	NA		STEERING SYSTEM CONTROLS	OK	
BRAKE SYSTEM OPERATION	OK				
PARK BRAKE OPERATION		XX			

STEERING AND BRAKE SYSTEM SUMMARY

The hand metering unit is leaking at the shaft seal.

The steering cylinder rod end bushings are worn moderately.

The park brake does not work.

FINAL DRIVE - DIFFERENTIAL ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
OIL LEVEL	OK		WHEELS AND TIRES		XX
OIL LEAKS	OK		CARRIER BEARINGS	OK	
GUARDS	OK		MOUNTINGS	OK	
CASES AND COVERS	OK		DIFFERENTIAL SUPPORTS	OK	
CLEANER BARS		XX	OSCILLATING BEARINGS	OK	
			S.O.S. SAMPLE	TAKEN	

FINAL DRIVE ANALYSIS

All of the cleaner bars are missing, several of the mounting bolts for them are broke off.

two of the cleaner bar mounting location brackets at the rear support tubes are bent.

The front cleaner bar mount tube at the front of the left rear tire is broke off at the weld to the frame.

The cleat tips are missing from both rear wheels, the tips at the front wheels are worn excessively.

HYDRAULIC SYSTEM ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
PUMPS	OK		OIL LEVEL	OK	
PUMP DRIVE	OK		HYDRAULIC CYLINDERS	OK	
MOTORS	OK		CYLINDER MOUNTS	OK	
CONTROL VALVES		XX	KICK OUTS	NA	
CONTROL LINKAGE		XX	OIL COOLER	OK	
TANK AND MOUNTING	OK		LINES, HOSES AND SEALS		XX
			S.O.S. SAMPLE	TAKEN	
MAIN SYSTEM PRESSURE:	2250+-100 PSI		ACTUAL P.S.I.	2750	

HYDRAULIC SYSTEM SUMMARY

The hydraulic control linkage is worn excessively.

The main hydraulic control valve above the park brake can is leaking and should be resealed.

The hoses connecting to the dozer lift cylinder are damaged to the steel braid. (not leaking)

CAB AND CHASSIS ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
R.O.P.S. AND CAB	OK		FENDERS	OK	
GLASS		XX	HOOD		XX
SOUND SUPPRESSION	NA		GRILL		XX
SHEET METAL	OK		FRAME ASSEMBLY	OK	
GUARDS AND COVERS		XX	SEAT ASSEMBLY		XX
FUEL TANK	OK		SEAT BELT		XX
GRAB IRONS LADDER & STEP		XX	WINCH	NA	
FLOOR MAT	OK		CLEAN, PAINT, SANDBLAST	OK	

CAB AND CHASSIS SUMMARY

The grill assembly is bent in multiple places

The upper hardnose grab iron on the left side is bent.

The hardnose step on the right side is bent severely.

The left rear step is bent and will not pivot down.

The right rear step is cut off at the mounting bracket.

The right cab ladder is bent at the bottom.

The front window is broke, the left front facing window is broke.

The side windows fit loose in the channels, the side window latches are worn out.

One bolt is missing from the right side of the transmission belly guard, all three bolts are missing from the left side.

The lower side engine enclosure doors does not latch properly and bind against the hood framework.

There is excessive movement in the cab mounts, they should be replaced.

The seat cushion is worn out and not mounted to the seat pan, the backrest fabric is worn through toward the bottom on the left side. The seat suspension is worn excessively. The right armrest pad is worn out, the seat belt date code can not be read, the seat belt should be replaced.

The right bolt is missing from the front frame belly guards, the front guard is bent.

The rear front frame belly guard is worn thin.

The headliner is torn.

The cab door seal is worn out.

The hood framework is cracked on both sides at the top rail under the center of the transmission access door, 2 bolts are missing from the panel below the crack on the right side.

DOZER ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
MOLDBOARD	OK		DIAGONAL BRACE	NA	

CUTTING EDGE & END BITS		XX	LIFT BRACE	NA	
GUSSETS	OK		TRUNNION CAPS & BEARINGS		XX
PINS & BUSHINGS	OK		PUSH ARMS		XX

RIPPER ANALYSIS

COMPONENT	O.K.	REPAIR	COMPONENT	O.K.	REPAIR
MOUNTINGS	NA		TOOL BAR	NA	
PINS AND BUSHINGS	NA		RIPPER SHANKS	NA	
DRAW BAR	NA		TEETH AND ADAPTERS	NA	

DOZER AND RIPPER SUMMARY

The supports at the top of the dozer push arm assembly are cracked at the inside welds to the upper dozer face cross tube on both sides. (see pics)

The dozer spill guard is bent slightly toward the right side.

Some shims should be removed from the push arm trunnion caps.

The cutting edges are almost worn out.

INSPECTED BY:

Doug Daley

Wheeler**Estimate No: 47723 - 1**

Wheeler Machinery Co.,
4901 WEST 2100 SOUTH
SALT LAKE CITY, UT 84120
Tel: 801-974-0511

CITY OF ELY

CUSTOMER NO.	CONTACT	PHONE NO.	Email/Fax	
027405				
ESTIMATE NO.	P.O. NO.	DATE	WORK ORDER NO.	
47723		4/19/2019 4:15:01 PM		
MAKE	MODEL	SERIAL NO.	UNIT NO.	Hour
AA	826C	087X01689		24145
NOTES				
Caterpillar Certified Power Train (CPT) rebuild. Includes a 3 Year/5000 Hour Cat CPT warranty.				

SEGMENT: 02**REMOVE& INSTALL COMPONENT(S)****NOTES:**

Remove and install components for CPT rebuild.
This includes reconditioning of the power train
controls and hose lines for the brakes.

Parts**Total Parts: 17,500.00****Labor****Total Labor: 33,280.00****Misc****Total Misc: 2,000.00****Segment 02 Total: 52,780.00****SEGMENT: 03****RECONDITION RADIATOR****NOTES:**

Recondition radiator cooling package.

Parts**Total Parts: 6,273.96****Labor****Total Labor: 3,048.00****Misc****Total Misc: 100.00****Segment 03 Total: 9,421.96****SEGMENT: 04**

SEGMENT: 04**RECONDITION ENGINE****NOTES:**

Recondition 1W-1428 engine complete.

Parts**Total Parts:** 24,614.48**Labor****Total Labor:** 19,630.00**Misc****Total Misc:** 2,295.20**Segment 04 Total:** 46,539.68**SEGMENT: 05****RECONDITION POWER SHIFT TRANSMISSION****NOTES:**

Recondition transmission complete.

Parts**Total Parts:** 20,782.87**Labor****Total Labor:** 9,620.00**Misc****Total Misc:** 778.46**Segment 05 Total:** 31,181.33**SEGMENT: 06****REPLACE WITH CAT REMAN TRANSMISSION OIL PUMP****NOTES:**

Replace 116-4624 transmission pump with Cat reman.

Parts**Total Parts:** 1,106.75**Labor****Total Labor:** 260.00**Segment 06 Total:** 1,366.75**SEGMENT: 07****RECONDITION DRIVE SHAFT****NOTES:**

Includes all spider and bearings, mounting hardware and carrier bearing. Slip joints will be evaluated at time of disassembly.

Parts**Total Parts:** 1,937.73**Labor****Total Labor:** 780.00**Segment 07 Total:** 2,717.73**SEGMENT: 08****RECONDITION DIFFERENTIAL FRONT****NOTES:**

Labor		Total Labor:	1,040.00
		Segment 80 Total:	1,040.00
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SEGMENT: 90			
	TEST MACHINE		
	NOTES:		
	Test machine after repairs.		
Labor		Total Labor:	2,080.00
		Segment 90 Total:	2,080.00
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SEGMENT: 95			
	PRE-DELIVER MACHINE		
	NOTES:		
	Pre-deliver machine.		
Labor		Total Labor:	520.00
		Segment 95 Total:	520.00
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SEGMENT: 97			
	EXTENDED WARRANTY MACHINE		
	NOTES:		
	3 Year/5000 Hour Cat CPT Warranty included.		
Misc		Total Misc:	17,840.00
		Segment 97 Total:	17,840.00
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SEGMENT: 98			
	TRANSPORT MACHINE		
	NOTES:		
	Transport machine round trip from customer site in Ely, NV.		
Misc		Total Misc:	6,320.00
		Segment 98 Total:	6,320.00
		Total Segments Parts:	96,745.18
		Total Segments:	211,416.80
Sub Total (before taxes)			211,416.80
<hr/>			
<ul style="list-style-type: none"> - This estimate will expire 30 days from the estimate date. - Price excludes Freight Charges, Operating Supplies/EPA Fees and Overtime. - Terms: Net 30. - Sales Taxes where applicable are not included with the above prices. 			
<p>This is an estimate of work to be performed and it should be noted that upon disassembly and inspection the customer will be advised of any additional repairs or cost.</p>			
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Recondition front differential.			
Parts		Total Parts:	2,773.58
Labor		Total Labor:	2,600.00
		Segment 08 Total:	5,373.58
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SEGMENT: 09	RECONDITION DIFFERENTIAL REAR		
	NOTES: Recondition rear differential.		
Parts		Total Parts:	1,947.82
Labor		Total Labor:	2,600.00
		Segment 09 Total:	4,547.82
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SEGMENT: 10	RECONDITION FINAL DRIVE& WHEEL		
	NOTES: Recondition all four final drives.		
Parts		Total Parts:	7,148.56
Labor		Total Labor:	2,080.00
		Segment 10 Total:	9,228.56
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SEGMENT: 11	RECONDITION BRAKING SYSTEM		
	NOTES: Recondition all 4 service brakes. Includes all new disks and plates.		
Parts		Total Parts:	11,029.63
Labor		Total Labor:	6,240.00
		Segment 11 Total:	17,269.63
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SEGMENT: 12	RECONDITION AXLE HOUSING SUPPORT/TRUN		
	NOTES: Recondition rear axle supports. Does not include machining, if necessary.		
Parts		Total Parts:	1,629.80
Labor		Total Labor:	1,560.00
		Segment 12 Total:	3,189.80
<hr/>			
SEGMENT: 80	WASH MACHINE		
	NOTES: Wash machine before and after repairs.		

Issued PO#_____

Date_____/_____/_____.

Authorized Name (Print)_____.

Authorized Signature _____
"The Signature is an authorization to proceed with the required repair work as described within the estimate".

Any Question? Please Call Justin McCulley at (801) 381-7884.

Wheeler**CAT****Estimate No: 48572 - 1**

Wheeler Machinery Co.,
4901 WEST 2100 SOUTH
SALT LAKE CITY, UT 84120
Tel: 801-974-0511

CITY OF ELY

CUSTOMER NO.	CONTACT	PHONE NO.	Email	
027405	Tom Lawrence	775-296-2003	tlawrence@elycity.com	
ESTIMATE NO.	P.O. NO.	DATE	WORK ORDER NO.	
48572		6/4/2019 3:46:47 PM		
MAKE	MODEL	SERIAL NO.	UNIT NO.	Hour
AA	826C	087X01689		24145
NOTES				
Replace wheel wraps and teeth on both rear wheels.				

SEGMENT: 70**WELD COMPACTOR WHEEL REAR (062 4206 RE)****NOTES:**

Replace wheel wraps and teeth on both rear wheels.
Clean wheels.

Labor

Description	Qty	Unit Price	Discount%	Ext Price
CHASSIS LABOR	4	130.00	0	520.00
Total Labor:				520.00

Misc

Description	Qty	Unit Price	Discount%	Ext Price
Re-wrap wheels	1	31,082.10	0	31,082.10
SHIPPING & HNDLG	1	4,000.00	0	4,000.00
Total Misc:				35,082.10

Segment 70 Total: 35,602.10**Total Segments Parts: 0.00****Total Segments: 35,602.10****Sub Total (before taxes) 35,602.10**

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- Terms: Net 30.
- Sales Taxes where applicable are not included with the above prices.

This is an estimate of work to be performed and it should be noted that upon disassembly and inspection the customer will be advised of any additional repairs or cost.

Issued PO# _____,

Date _____ / _____ / _____ .

Authorized Name (Print) _____ .

Authorized Signature _____ .
"The Signature is an authorization to proceed with the required repair work as described within the estimate".

Any Question? Please Call Justin McCulley at 801-381-7884. _____

Wheeler**CAT****Estimate No: 48572 - 2**

Wheeler Machinery Co.,
 1901 WEST 2100 SOUTH
 SALT LAKE CITY, UT 84120
 Tel: 801-974-0511

CITY OF ELY

CUSTOMER NO.	CONTACT	PHONE NO.	Email	
027405	Tom Lawrence	775-296-2003	tlawrence@elycity.com	
ESTIMATE NO.	P.O. NO.	DATE	WORK ORDER NO.	
48572		6/4/2019 3:46:47 PM		
MAKE	MODEL	SERIAL NO.	UNIT NO.	Hour
AA	826C	087X01689		24145
NOTES				
Exchange all four wheels for used wheels. If wheels are available at the time of the order. Average tip height of 5" to 5.5". Clean wheels.				

SEGMENT: 70**WELD COMPACTOR WHEEL REAR (062 4206 RE)****NOTES:**

Exchange all four wheels for used wheels.
 If wheels are available at the time of the order.
 Average tip height of 5" to 5.5".
 Clean wheels.

Labor

Description	Qty	Unit Price	Discount%	Ext Price
CHASSIS LABOR	4	130.00	0	520.00
Total Labor:				520.00

Misc

Description	Qty	Unit Price	Discount%	Ext Price
4 used wheels.	1	11,305.00	0	11,305.00
SHIPPING & HNDLG	1	4,000.00	0	4,000.00
Total Misc:				15,305.00

Segment 70 Total: 15,825.00**Total Segments Parts: 0.00****Total Segments: 15,825.00****Sub Total (before taxes) 15,825.00**

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inspection the customer will be advised of any additional repairs or cost.

Issued PO# _____,

Date ____/____/____.

Authorized Name (Print) _____.

Authorized Signature _____.

"The Signature is an authorization to proceed with the required repair work as described within the estimate".

Any Question? Please Call Justin McCulley at 801-381-7884.

2

Wheeler**Estimate No: 48572 - 3**

Wheeler Machinery Co.,
1901 WEST 2100 SOUTH
SALT LAKE CITY, UT 84120
Tel: 801-974-0511

CITY OF ELY

CUSTOMER NO.	CONTACT	PHONE NO.	Email	
027405	Tom Lawrence	775-296-2003	tlawrence@elycity.com	
ESTIMATE NO.	P.O. NO.	DATE	WORK ORDER NO.	
48572		6/4/2019 3:46:47 PM		
MAKE	MODEL	SERIAL NO.	UNIT NO.	Hour
AA	826C	087X01689		24145
NOTES				
Exchange all four wheels for used wheels. If wheels are available at the time of the order. Average tip height of 5" to 5.5". Clean wheels.				

SEGMENT: 70**WELD COMPACTOR WHEEL REAR (062 4206 RE)****NOTES:**

Wheeler to replace tips on both rear wheels with
plus tips.
Weld a hard face bead around edge.
Clean wheels.

Parts

Description	Qty	Unit Price	Discount%	Ext Price
TIP WHEEL	50	248.90	0	12,445.00
Total Parts:				12,445.00

Labor

Description	Qty	Unit Price	Discount%	Ext Price
WELD LABOR	105	128.00	0	13,440.00
Total Labor:				13,440.00
Segment 70 Total:				25,885.00

SEGMENT: 71**WASH COMPACTOR WHEEL REAR (074 4206 RE)****NOTES:**

Clean and wash rear compactor wheels.

Labor

Description	Qty	Unit Price	Discount%	Ext Price
CHASSIS LABOR	4	130.00	0	520.00
Total Labor:				520.00
Segment 71 Total:				520.00
Total Segments Parts:				12,445.00
Total Segments:				26,405.00

Sub Total (before taxes)

26,405.00

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Issued PO#

Date / /

Authorized Name (Print)

Authorized Signature

The Signature is an authorization to proceed with the required repair work as described within the estimate.

Any Question? Please Call Justin McCulley at 801-381-7884.

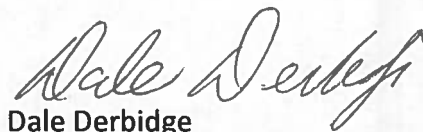
City of Ely Utility Board

June 12, 2019

Concerning item C.1 on the June 13th agenda, I would like to remind this board that the Northern Nevada Railway Foundation requested to be an autonomous organization and have no ties to the City of Ely. A previous council granted their request. They are operating as a private business. Their meetings are not open to the public and they do not have to follow the open meeting law. Since the Foundation is a private business with a Will Serve Application, they should be required to pay the tap fee of \$4637.50. If the waiver is granted it will set precedence for every business and homeowner coming to the city for sewer and water services. The purpose of the tap fee is to build up cash reserves to maintain the city's infrastructure. If tap fees are waived, the cash reserve will soon dwindle to nothing, and where does that leave the city?

Thank you for considering my concerns.

Sincerely,



Dale Derbidge

City of Ely Resident

6/3/19

Councilman Carson- Discussion/ For Possible Action- Recommendation of Approval to Extend the Joint Development and Beneficial Use Agreement between Heggie and Gale Ranching and the Municipal Utilities Board , an operating agency of the City Of Ely, through June 30, 2020. In order to put the new bided Lease of the Geo Town Ranch , on the City of Ely's fiscal year. Also to allow Heggie and Gale Ranching ample time to complete the fencing project with NDOT and BLM (aprox 10 months). Also time for Heggie and Gale Ranching to calve and complete their financial obligations made after the March 14 2019 of the City Council meeting where is was approved to continue leasing the Geo Town Ranch to Heggie and Gale Ranching. It will also permit Heggie and Gale Ranching a better climatic time to move equipment and livestock if Heggie and Gale ranching are not the awarded bidder of the Geo Town Ranch. Heggie and Gale Ranching would pay the increased lease payment to the City of Ely, based on the fee schedule set forth by Attorney Odgers in the negotiation process of the approval to continue leasing to Heggie and Gale Ranching , March 14th City Council meeting , of the Geo Town Ranch.



CITY OF ELY

501 Mill Street Ely, Nevada 89301
City Hall (775) 289-2430 - Fax (775) 289-1463

Date: June 6th, 2019

To: Mayor Van Camp
City Council Members
Utility Board Members

From: Tom Lawrence- Landfill Leadman

Subject: Monthly Report – Landfill Department

Landfill

During the month of May we did daily operations as usual. Class I year to date total tons 2707.7. Year to date daily average 18.8 tons. Class III year to date total tons 2,888.94. Year to date daily average 20.06 tons. Landfill crew is still hauling dirt daily from the class III expansion area. Will be doing a loader service during the month of June. Water samples were collected for the second quarter and sent to Wetlab. Working on building a grizzly to separate material to use for cover. Routine maintenance and service was completed on equipment and vehicles. All equipment was greased as needed.

Equipment Status

All equipment is up and running.

Report Criteria:

Customer.Alert message = "LIEN"

Account Balance	Name	Service Address	Alert Message
1,686.07	ACP 1	2 FIRST ST /RUTH	LIEN
3,617.11	ALLEN, JESSICA & WICKS, JAMIE	1536 E 2748 N ST	LIEN
1,923.82	AMES STEVAN	37 SECOND ST	LIEN
684.83	ANDERSON FRED	450 & 460 ELY AVE	LIEN
2,078.18	ANDERSON, GERALD & DEAN	005-073-04/CHERRY CREEK	LIEN
959.56	AVILA NETZAHUALCOYTL	008-260-05/BIDA RANCH/CHERRY CR	LIEN
292.03	BACKUS CATHIE G	1511 W 365th N	LIEN
87.79	BAINBRIDGE CHARLES J	1215 MILL ST	LIEN
1,686.07	BARKER VICTORIA	10 & 12 NORTH FOURTH ST	LIEN
1,686.07	BARKER VICTORIA	2 AVE F	LIEN
1,686.07	BARKER VICTORIA	291 NORTH MAIN	LIEN
1,686.07	BARKER VICTORIA	31 AVE B	LIEN
785.56	BIDA SAM	2160 CRAWFORD	LIEN
679.81	BLISS RICHARD	40 KEYSTONE ST	LIEN
2,229.31	BRAGG JOLENE	5 AVE B	LIEN
68.65	Briggs Cameron Melissa	630 PINE ST	LIEN
13.00	BRYNE, GEORGE & PATRICIA	20 PINE ST	LIEN
1,222.71	CHACHAS, GEORGE C	490 HIGH ST	LIEN
3,470.22	CHILSON ERIC & AMBER	10 AVE F	LIEN
2,153.37	CISCAR JESSE	16 AVE I	LIEN
639.68	COMMERCIAL CLUB	1 MAIN ST*	LIEN
14,035.13	COOPER & SONS CONST	2987 W HWY 50/5 MILES WEST ON U.	LIEN
4,390.34	COOPER DANNY	1369 AVE D	LIEN
1,116.27	CRAIG LAWRENCE H	05-086-03/ ONELL/ CHERRY CREEK	LIEN
10,379.40	CUNDICK KENNETH	44 KEYSTONE ST	LIEN
878.13	DAILEY CHRIS	3 AVE D	LIEN
7,915.35	DALY MARK	8400 NORTH SR 892	LIEN
2,809.89	DARLING CHAUNTELL	311 N MAIN ST	LIEN
751.18	DELUCIA MARY L	14275 EAST 323 SOUTH STREET	LIEN
1,900.46	DORRIS LAURA M	89 WEST 1ST SOUTH	LIEN
990.53	DUNN CHARLES & PATRICE	17 MAHOGANY ST	LIEN
909.75	ELDRIDGE SHARLENE	582 NORTH US HWY 93	LIEN
809.94	EREKSON ANTOINETT	126 S MAIN ST	LIEN
6,940.41	EREKSON DEEANNA	25 E 7TH N *	LIEN
4,822.62	FACKRELL W RALPH	67 N 1ST EAST ST	LIEN
822.48	FITZNER BRYAN	952 HIGH ST	LIEN
2,555.65	GAULT MARY	22 FIRST ST / RUTH	LIEN
471.03	GORTAT H W JR	05-074-02/CHERRY CREEK	LIEN
8,578.47	GUBBINE JAMES J JR	16 THIRD ST	LIEN
2,187.85	GUNDERSON CAROL	58 FOURTH ST	LIEN
480.22	HARDY KEITH AND KARL	13 JUNIPER ST	LIEN
528.91	HARRISON KEVA	11 KEYSTONE ST	LIEN
3,222.56	HARRISON ROBERT	8 AVE A	LIEN
659.32	HIBBS WILLIAMS G	12 AVE D	LIEN
8,064.49	HILL GARY & MICHELLE	2551 NORTH 21ST WEST ST	LIEN
463.14	HINES STEPHEN M	21 JUNIPER ST	LIEN
4,929.01	HOFFMAN JOYCE-W CREEK TRADIN	8050 S 71ST E ST	LIEN
1,627.99	HOPEWELL HEATHER	23 AVE F	LIEN
1,604.77	HUMPHERY RICK & KATHY	39 SUNSHINE ST	LIEN
2,376.44	IRLBECK TSUNEO	6075 EAST 2973RD NORTH ST	LIEN
816.56	JENSEN KYLE	49 FIRST ST	LIEN
7,599.79	JOHNSTON DENNIS & BELINDA	35 KEYSTONE ST	LIEN
3,685.88	JONES, RALPH	5 NORTH SIXTH ST	LIEN
4,259.08	KOCUREK KRISTIN	8 NORTHFOURTH ST / CLUB HOUSE	LIEN
1,222.68	LAIL LAWRENCE R	40 SUNSHINE ST	LIEN

Account Balance	Name	Service Address	Alert Message
3,056.85	LAIL, LAWRENCE & C DECARBONEL	3733 NORTH HWY 93/50 CLUB	LIEN
3,131.50	LAZAR RENEE	4 AVE E	LIEN
495.89	LEE JEAN	488 STEVENS AVE	LIEN
4,568.80	LILLY, JEREMY F	295 ELY AVE/CENTRAL ELY SCHOOL	LIEN
352.81	LINNELL NORMAN	2 A NORTH SECOND ST	LIEN
1,729.86	LUCIENTES MICHAEL	1325 AVE C	LIEN
8,975.08	LYMAN LYLE AND PHYLLIS	22 SIXTH ST	LIEN
3,514.37	LYMAN LYLE O	64 NORTH THIRD ST	LIEN
306.82	MALCOLM GERALD R	1 PINE ST	LIEN
7,181.92	MARRUJO, KENNETH/PETE'S DRIVE I	1155 E AULTMAN ST/PETE'S DRIVE IN	LIEN
2,416.67	MASINI JOSEPH & MISTY	110 W 9TH N	LIEN
5,555.71	MATHEWS LEONARD GUY	10 DALY ST	LIEN
659.32	MCKENZIE RODRIC D	64 N MAIN	LIEN
8,739.39	MCLEAN NORA	8 AVE C	LIEN
3,363.31	MELLOS DEMETRIOS ET AL	4 FIFTH ST	LIEN
8,147.10	MILLER KRISTOPHER & JESSICA	6 AVE C	LIEN
1,069.90	MILLER SARAH	2490 NORTH SR 490	LIEN
3,692.53	MITCHELL DOROTHY JUNE TRUST	6 EAST ST	LIEN
2,899.30	MONTGOMERY JANE	25 SIXTH ST	LIEN
2,661.44	MORIAH ENTERPRISES INC	35 AVE R	LIEN
3,884.79	MORRIS MARIE	10 FOURTH ST/MARIE'S CAFE	LIEN
3,484.06	MOSHER BYRAN T	8 AVE J	LIEN
107.01	MULLER, JON L & KATHERINE	398 MILL ST/ Dojo	LIEN
913.45	OLESON JAMES	450 OGDEN AVE	LIEN
519.58	PALCZEWSKI BILL S	2983 NORTH 9TH WEST ST	LIEN
833.24	PARMLEY SHERYL	30 AVE B	LIEN
494.60	PAY BRUCE & JODEAN	13 AVE F #1	LIEN
2,759.48	PEARCE JESSICA	236 FAY AVE#2	LIEN
1,611.67	PEHRSON, NEAL E	4 PINE ST	LIEN
2,150.04	POPE ROBERT	646 STEVENS AVE	LIEN
2,711.48	PRATT ROBERT N	11 AVE C	LIEN
2,711.48	PRATT ROBERT N	13 AVE K	LIEN
2,711.48	PRATT ROBERT N	15 AVE K	LIEN
517.15	REID FRANK	65 N MAIN ST	LIEN
977.13	REYNOSO JOSE	47 SUNSHINE ST	LIEN
1,180.61	RIMINGTON ANNIE RAE	2 AVE D	LIEN
6,256.55	SANKOVICH LORI	26 THIRD ST	LIEN
575.49	SCHEMP DARLA	34 SUNSHINE ST	LIEN
882.66	Simplistic Solutions LLC	22 MAIN ST	LIEN
5,436.03	SORENSEN MARY	48 KEYSTONE ST #1	LIEN
9,436.67	STEVENS JAMES	158 W WHITE RIVER RD	LIEN
752.96	STEWART LARRY & KIMBERLY	6 MAIN ST/TOWN STORE/RUTH	LIEN
71.09-	STOLZ BILLIE SUE	16 FOURTH ST	LIEN
15,643.07	TOWN & COUNTRY ANNEX	710 AVE G	LIEN
1,607.02	TRUJILLO SCOTT	19 AVE H	LIEN
4,062.17	V.I.T.A.L.	1 A NORTH FIRST ST	LIEN
2,150.73	WALKER CHRIS	2 B FIRST ST	LIEN
447.31	WETZEL JON	1381 MILL ST	LIEN
606.09	WILCOX JOYCE	2 A FIRST ST	LIEN
750.60	WILLIAMS MARY LYNN	8 AVE E	LIEN
1,375.54	WILLIS STEVE	60 NORTH FOURTH ST	LIEN
8,876.34	WINTERS WARD	28 KEYSTONE ST	LIEN

Grand Totals:

303,015.66

May 2019

CITY OF ELY

Table Lists - LIEN RELEASED FOR COUNCIL REPORT

Page: 1

Jun 06, 2019 09:51AM

Report Criteria:

Customer.Alert message = "LIEN RELEASED"

Name	Service Address	Alert Message
ABELL RALPH	710 MILL ST #1	LIEN RELEASED
BROOKS LORI & KOUTSKY CRAIG	26 FOURTH ST	LIEN RELEASED
DRAIN PEGGY	34 AVE D	LIEN RELEASED
GIBSON DAVID	240 S 1st E	LIEN RELEASED
SEDGWICK TEDDY & DELORES	32 FOURTH ST	LIEN RELEASED
SOUTH PACIFIC FINANCIAL CORP	1116 E AULTMAN ST	LIEN RELEASED

Grand Totals:

6

APPLICATION WILL-SERVE LETTER FOR WATER/SEWER SERVICES



CITY OF ELY

480 Campton Street Ely, Nevada 89301
City Hall (775) 289-2430 - Fax (775) 289-1463

APPLICATION WILL-SERVE LETTER FOR WATER/SEWER SERVICES

Name of Applicant:

Nevada Northern Railway Foundation

Address of Applicant:

1100 Ave A
Ely NV 89301

Phone Number:

775-289-2085

Applicant must provide documented proof that they are the owners of the property described below or provide a notarized statement from the legal owner that the Applicant is authorized to apply for a Will-Serve in the Owner's behalf.

Legal Description or address of property to be served, including size of water service needed. Description and number of sewer fixtures to be constructed is required if other than residential. Attach additional documentation if necessary.

1100 Ave A
Ely NV 89301

In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability. (Not all prohibited bases apply to all programs). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

APPLICATION WILL-SERVE LETTER FOR WATER/SEWER SERVICES

PLEASE NOTE: The City Engineer can approve this application if it is for a residence; otherwise, the Municipal Utility Board must review and the City Council must approve the application. Will-Serve letters are not given to existing customers that have delinquent accounts with outstanding amounts due.*
Issuance of this Will-Serve authorizes the applicant to tap into and extend City utilities onto his property. All work must be performed in accordance with City standards and accepted by the City Engineer. All authority granted by this Will-Serve expires twelve (12) months after this date of issue.

City Review Section

City Engineer Review:

Fees: Water \$ EXISTING Sewer \$ 4,637.50

City Engineer's Signature: [Signature]

City Administrative Review:

This applicant does not have any delinquent accounts.

Administrative Signature: _____

Date: _____ Amount Paid \$ _____

EXPIRATION DATE: _____

By signing this document you are agreeing to comply with all rules and regulations relating to water and/or sewer contained in the latest version of the City Code of Ely, Nevada.

Applicant's Signature _____

Date _____

*In the event of a price increase in the application for water/sewer services instituted during the pendency of the application, the applicant will be responsible for the increased fee unless the application for it has been paid in full at the time the price increase takes effect.

Basin Engineering

Consulting Engineers & Land Surveyors

**CITY OF ELY
SEWER SYSTEM WILL-SERVE FIXTURE UNIT COUNT AND COST
NORTHERN NEVADA RAILWAY MUSEUM
ENGINE HOUSE SHOWERS IMPROVEMENT**

June 4, 2019

FIXTURE UNIT COUNT PER PLANS		NUMBER OF FIXTURES	FIXTURE UNIT VALUE	TOTAL FIXTURE UNITS
1	WATER CLOSET	4	4	16
2	URINAL	2	4	8
3	LAVATORY	5	2	10
4	SHOWER	4	2	8
5	UTILITY SINK	1	2	2
6	WASHING MACHINE	1	3	3
7	OPERABLE DISPLAY - WATER CLOSET	1	4	4
8	OPERABLE DISPLAY - LAVATORY	1	2	2
		TOTAL FIXTURE UNITS		53

	COST PER FIXTURE UNIT	TOTAL FIXTURE UNITS	TOTAL CONNECT FEE
SEWER CONNECTION FEE COST	\$ 87.50	53	\$ 4,637.50

Fixture Unit Values are from the 2012 International Plumbing Code, Table 709.1

TABLE 709.1
DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (Inches)
Automatic clothes washers, commercial ^a	3	2
Automatic clothes washers, residential ^a	2	2
Bathroom group as defined in Section 202 (1.6 gpf water closet) ^f	5	—
Bathroom group as defined in Section 202 (water closet flushing greater than 1.6 gpf) ^f	6	—
Bathtub ^b (with or without overhead shower or whirlpool attachments)	2	1½
Bidet	1	1¼
Combination sink and tray	2	1½
Dental lavatory	1	1¼
Dental unit or cuspidor	1	1¼
Dishwashing machine ^c , domestic	2	1½
Drinking fountain	½	1¼
Emergency floor drain	0	2
Floor drains ^h	2 ^h	2
Floor sinks	Note h	2
Kitchen sink, domestic	2	1½
Kitchen sink, domestic with food waste grinder and/or dishwasher	2	1½
Laundry tray (1 or 2 compartments)	2	1½
Lavatory	1	1¼
Shower (based on the total flow rate through showerheads and body sprays)		
Flow rate:		
5.7 gpm or less	2	1½
Greater than 5.7 gpm to 12.3 gpm	3	2
Greater than 12.3 gpm to 25.8 gpm	5	3
Greater than 25.8 gpm to 55.6 gpm	6	4
Service sink	2	1½
Sink	2	1½
Urinal	4	Note d
Urinal, 1 gallon per flush or less	2 ^e	Note d
Urinal, nonwater supplied	½	Note d
Wash sink (circular or multiple) each set of faucets	2	1½
Water closet, flushometer tank, public or private	4 ^e	Note d
Water closet, private (1.6 gpf)	3 ^e	Note d
Water closet, private (flushing greater than 1.6 gpf)	4 ^e	Note d
Water closet, public (1.6 gpf)	4 ^e	Note d
Water closet, public (flushing greater than 1.6 gpf)	6 ^e	Note d

For SI: 1 inch = 25.4 mm, 1 gallon = 3.785 L, gpf = gallon per flushing cycle, gpm = gallon per minute.

a. For traps larger than 3 inches, use Table 709.2.

b. A showerhead over a bathtub or whirlpool bathtub attachment does not increase the drainage fixture unit value.

c. See Sections 709.2 through 709.4.1 for methods of computing unit value of fixtures not listed in this table or for rating of devices with intermittent flows.

d. Trap size shall be consistent with the fixture outlet size.

e. For the purpose of computing loads on building drains and sewers, water closets and urinals shall not be rated at a lower drainage fixture unit unless the lower values are confirmed by testing.

f. For fixtures added to a bathroom group, add the dfu value of those additional fixtures to the bathroom group fixture count.

g. See Section 406.3 for sizing requirements for fixture drain, branch drain, and drainage stack for an automatic clothes washer standpipe.

h. See Sections 709.4 and 709.4.1.



CITY OF ELY

501 Mill Street Ely, Nevada 89301
City Hall (775) 289-2430 - Fax (775) 289-1463

Date: June 6, 2019

To: Mayor Van Camp
City Council Members
Utility Board Members

From: Carl Siemer

Subject: Monthly Report – **May Water & Sewer**

DIGS

- 1200 Ave. K

SEWER RODDING

- 920 Ave. H
- 1310 Ave. D
- Campton & Elysium
- State Patrol Office

WELLS:

- RW -7 has gone down twice since April, but it is up and pumping 2,800-3,000 GPM
- 17th & M Well still in auto
- 10th & M Well: *O'Flaherty Plumbing* is in the process of refitting (piping/valves). *Gust Electric* will be installing a new transfer switch and 250 HP VFD to run the existing pump when *O'Flaherty Plumbing* is done. Robinson Mine is paying for this work, which will cost approximately \$44,000.00.
- *C.H. Spencer Technicians* from Elko were here to reconfigure the operating panel settings on the Terrace Well. This was also paid for by Robinson Mine, which was approximately \$1,500.00.

MISC:

- Monthly coliform samples complete
- Monthly meter reads complete
- Still working on NDOT locates for the Aultman job
- Did non-payment shut offs

Date: 6/6/19

To: City of Ely

City of Ely: Water and Wastewater Systems

From: Raul Naranjo, Water, Wastewater DRC and Laboratory Director

Subject: Water System and Wastewater Treatment Plant – Observations and Recommendations

I visited the facilities on May 8th and 24th

1. Laboratory

- a) Monthly audit, an internal review of all Quality Control Systems as outlined in the Lab Quality Assurance Plan (QAP). Review of all laboratory supporting documents, Lab Log books for discrepancies, laboratory procedures.
- b) 5/8/19 - Conducted initial training for Mario in the laboratory for the analysis of water, Standard Methods Colilert 24 hour, we went over acceptance, procedure, interpretation, reporting and documentation. We did hands on training and discussed ethics and regulations. Mario needs a few more training sessions in order for him to be qualified for him to run the test by himself.
- c) The Standard Methods book went missing from the lab, I highly recommend that it be replaced as soon as possible. The SM book is the main reference book for laboratory operations.

2. Sewer Plant Observations

With Bruce leaving I have taken more time to do training with the new operators on plant operations. We reviewed the plant discharge permit, which is the document that spells out the required testing of the plant.

- a) Technician came to work on the centrifuge, sludge dewatering equipment, he found several issues. The three major ones were, the programing in the control panel. Somehow the program was changed and it did not have the right configuration to operate the centrifuge correctly. Second the sensor was not set correctly. The speed sensor was not set at the correct depth and was not reading the shaft speed correctly. This caused the equipment to shut down. Third, there were a couple of timers in the panel that were not wired correctly. He made all the correct repairs and adjustments, the centrifuge is now running and making bio-solids.

- b) We discussed plant operations and the plant is operating good level, as far as process treatment. Shannan is making small adjustments to maintain the plant running at an optimal condition. Items that she adjusted are RAS flow rate and wasting time, wasting adjusts the amount of TSS in the basin. Just by observation we could tell that the mixed liquor (Liquid in the aeration basin) was looking old, it had a dark color and the floating foam was thick and dark. Indicators that we were not wasting enough. I also believe that the change in climate affected the process, after the adjustments the basin and the clarifier look better.

Recommendations

These are areas of concern that I recommend be addressed in a very near future. I understand that some of these items can be complicated to completed, but I feel that they are things that cannot be prolonged more than we have to. All of these concerns are solely for the better operation of the plant.

- a) SCADA and computer upgrade, the computers at the plant are very outdated, and their operating systems are no longer supported by the manufacturer. They no longer provide security updates for these computers, which could put them at risk. Upgrading the SCADA program would be of great benefit for the operators, it would give them the better capability to control the process. It would also give us the capability to monitor all the equipment, and it would notify us of any malfunctions. Supervisory Control and Data Acquisition (SCADA) this program is currently on Carl's computer; his computer takes ten minutes or more to boot up. We can easily replace his computer for less than \$1000, I believe that this an essential work tool that needs to be replaced as soon as possible.
- b) Polymer mixer, every time that I've been at the plant they have been dealing with one problem or other on this unit. Replacing the unit would free up the operators to attend to other matters in the plant. Since the centrifuge is back up and running this should be the next issue to address, the cost to replace this unit will be around \$8000.00. I have been in contact with the rep for a new unit and he has given me a quote for \$7400 for a replacement unit.
- c) Influent channel shut off gate, we have decided that a gate in the influent (sewer water entering the treatment plant) channel would be the best location for a shut off. This would give us the ability to turn off the flow to the plant flow in a safe and easy manner. Which is not the case at this time, currently the only option is to plug the incoming pipe, which is a hazardous under taking to say the least. Having

the gate would make it simple to turn off flow to conduct maintenance and in cases where we need to bypass the plant. I have also been in contact with the rep for the shut off gate they have given us a quote for \$5300.

- d) Solids screens, they are older technology and are not very hygienic to operate or easy maintain. We should try to eliminate the exposure of infections to the operators. Newer technology equipment is easier to operate and maintain.
- e) The Emergency Response Plan for the treatment plant needs to be updated, I will work with Shannan to upgrade it and turn it to the state.

3. Water System

- a) We reviewed the sampling requirements for the system, to ensure that we were up to date on testing and reports. Everything seems to be caught up, unfortunately we need three more samples on the Terrace Well, the testing will commence in July and we need to take a sample monthly for three months.
- b) Everything looks clean, and in order, they have done an excellent job of maintaining the water sites.
- c) Vulnerability Assessment Program, renewal form “B”. were sent into the state. Under the VAP we qualify for reduced water testing monitoring.

Recommendations

- a) Signs should be posted at the well and tank sights, to discourage trespassing.

This is only a very brief explanation of some of the items that I think need attention. If you would like a more in-depth explanation, please contact me at any time.

I would like to state that the people and companies I have recommended have only a working relationship with me and I will not benefit in any way from them getting work from the city.

I would also like to extend an invitation to all council, board members, and office personnel to tour the facilities.

Please feel free to contact me at any time if you have any questions.

Thank you,

Raul Naranjo
DRC Water and Wastewater Systems
City of Ely

Cell: 801-440-2790

Email: tripnsd@gmail.com



PRICE QUOTE

WATERTECH, Inc.

2536 Kimberly Road

Twin Falls, Idaho 83301

PHONE: (800) 367-3250 / (208) 734-7279

FAX: (208) 733-0460

TO: ELY CITY WASTE TREATMENT
501 MILL STREET
ELY, NV 89301
USA

DATE: June 3, 2019

PHONE: 435-830-4093 CELL

FAX:

EMAIL: lab@westwendovercity.com

ATTN: RAUL NARANJO
501 MILL STREET
ELY, NV 89301
USA

QUOTE #: Q190603-02-AC

EXPIRES: July 3, 2019

REF: SEMI-AUTO PULSABLEND

QTY	DESCRIPTION	EACH	TOTAL
1.00 EACH	PULSABLEND NEAT POLYMER MAKE DOWN SYSTEM, DRY CONTACT CONTROL, 0.50 GPH LVB3 150PSI INJECTION PUMP, 0-5GPM WATER FLOW RATE LESS PRESSURE REGULATOR	\$ 6,754.00	\$ 6,754.00
1.00 <Each>	APPROXIMATE FREIGHT CHARGES TO BE ADDED TO FINAL INVOICE(S)	\$ 575.00	\$ 575.00
Region ZONE 41 Shipping Method Common Carrier	<p>Price does not reflect sales tax where required by law.</p> <p>Acceptance of order requires a written Purchase Order with a 50% Deposit</p> <p>Minimum Order for Stock Items - \$25.00, Minimum Order for Nonstock Items - \$50.00</p> <p>Minimum Order for Nonstock SUEZ Parts - \$200.00</p>	<p>Subtotal</p> <p>Sales Tax</p> <p>TOTAL</p>	<p>\$ 7,329.00</p> <p></p> <p>\$ 7,329.00</p>

TERMS AND CONDITIONS OF QUOTE

- Net 30 days on approved credit. Past due accounts will be charged interest at 1-1/2% per month.
- Quoted prices are exclusive of all installation costs. Buyer is responsible for all installation costs and associated fees. These would include but not be limited to: fittings, parts and labor for installation, Building Permits, Inspection Fees, Local Code Compliance costs and any other related costs or fees.
- Quoted prices are exclusive of all taxes. Buyer shall be responsible for payment of all applicable Federal, State and/or Local Sales, Use and/or Gross Receipt taxes resulting from transactions with WATERTECH, Inc. regardless of placement of liability.
- All equipment shipments are FOB Factory; Freight Not Allowed. Unless otherwise specified, shipments are shipped on Carrier of WATERTECH, Inc. choice. Freight charges will be prepaid and added to the invoice. WATERTECH, INC. WILL NOT BE HELD RESPONSIBLE FOR BREAKAGE AND/OR SHORTAGES AFTER SHIPMENTS ARE ACCEPTED BY THE CARRIER. Freight claims must be made immediately, directly to the delivering Carrier. WATERTECH, Inc. will help as much as possible in settling claims.
- Any non-stock items are considered special order and are non-returnable.
- Quoted prices are good for 60 days from date of this Quotation unless otherwise stated.

The Pulsafeeder PULSAblend Polymer Makedown Systems features a patent pending Static Blending System which provides excellent dilution without harming the polymer chains. These rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability.

The UV-stabilized, high-grade HDPE frame is lightweight, corrosion resistant and offers structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

A Wide Range of Dilution Three different water flow rates (0-5; 5-10; and 10+ GPM) custom size the system to provide outstanding activation of all types of polymers, without the sometimes damaging effects of motorized mixing devices. 5 neat polymer pump flow rates ensure the right makedown for any application. The systems include an auto-fill calibration column for easy verification of the exact neat polymer injection rate and an adjustable flow meter for incoming water, enabling exact proportion control. Each system also comes standard with a neat polymer back pressure regulator to maintain a consistent final product.

Manual & Dry Contact System Features A single three position control switch provides for automatic polymer makedown in "Run" mode and allows the operator select "Flush" mode to run only clean water, along with the "Off" position. A "Prime" button activates only the neat polymer pump. The Dry Contact remote control option allows for Run/Stop function with automatic flush cycle from a simple contact closure.

Automatic Features Controls include main power "On/Off" and "HOA" switches for the neat polymer feed pump and the inlet water solenoid valve. Optional controls for mixer "HOA" and mixer timing included with the mixer option. Day tank "Batch" level control has optional ultrasonic or conductivity rod level sensors.

Features

- **Open Access System:** Rigid, unitized frame with schedule 80 PVC piping & Viton elastomers; great system visibility and open layout means easy servicing.
- **Easy to Install and Operate**
- **Proportion Control:** Three different water flow rates to choose from along with five neat polymer pump flow rates for exact application fit.
- **Proprietary Mixing:** The Patent Pending Static Blending System is customized providing outstanding activation of all types of liquid polymers.
- **Consistent Control:** Pulsatron neat polymer pump for up to 20,000 CPS, solenoid valve and adjustable flow meter for incoming water, auto-fill calibration column and back pressure control give you consistent, repeatable makedown control.
- **Optional Equipment:** Incoming water pressure regulator and low flow kill switch give foolproof operation.

Applications

- **Water Clarification:** A wide variety of polymers can be used for clarification flocculants. Used in applications from direct filtering to DAF system skimming, the Pulsafeeder Polymer Makedown System will fit almost any application:
- **Wastewater Treatment**
- **Food & Beverage**
- **Paint Overspray Water Systems**
- **Industrial Process Water Treatment**



System Configuration Options

- Neat Polymer Injection Pumps, five sizes from 0.5 to 10 GPH; 20,000 CPS.
- Viton Elastomers.
- Patent Pending Static Blending System, in three sizes for incoming water flow rate
- Conical Bottom Tanks from 15-110 gallon.
- Tank Mixers with propeller or paddlewheel ends; fixed-speed or VFD configuration.
- Level Control with Ultrasonic or Conductivity Sensors; separate "High Level" switch with alarm light for overflow protection.
- Low flow switch will disable the neat polymer pump.
- Pressure regulator allows flow control where inconsistent feed water pressure is an issue.



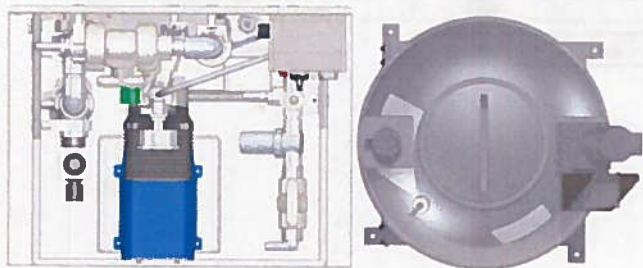
PULSblend[®] Polymer Makedown Systems

Specifications and Model Selection

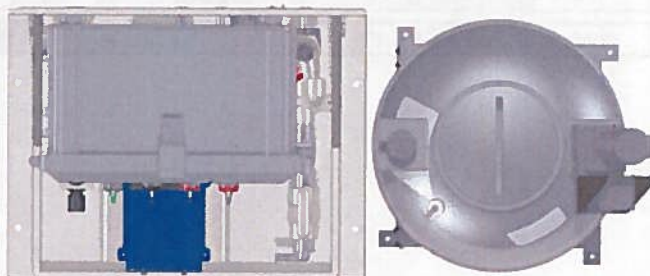
Polymer Makedown System Manual Control		PESM	-	-	V	S	-	-	-	-	XXX
SKID TYPE:	M	Polymer Makedown System									
CONTROL OPTIONS:	A	Automatic PLC Control, 115V									
	C	Manual Control, 115V									
	E	Dry Contact Control, 115V									
NEAT POLYMER INJECTION PUMP:	A	0.50 GPH - LV83 - 150 PSI Max									
	B	1.00 GPH - LVF4 - 150 PSI Max									
	C	2.00 GPH - LVG4 - 110 PSI Max									
	D	4.00 GPH - LVG5 - 110 PSI Max									
	E	10.0 GPH - LVH7 - 80 PSI Max									
	N	Non-standard. See order for details									
ELASTOMER:	V	Viton O-rings and Seals									
PRIMARY MAKEDOWN:	S	Static Mixer, Proprietary Design									
INCOMING WATER FLOW RATE & REGULATOR:	A	0 - 5 GPM Less Pressure Regulator									
	B	5 - 10 GPM Less Pressure Regulator									
	C	10+ GPM Less Pressure Regulator									
	D	0 - 5 GPM with Pressure Regulator									
	E	5 - 10 GPM with Pressure Regulator									
	F	10+ GPM with Pressure Regulator									
TANK CAPACITY - MAKEDOWN POLYMER:	D	Direct Feed, No Tank									
	1	15 Gallon, Conical Bottom with Stand									
	3	30 Gallon, Conical Bottom with Stand									
	4	40 Gallon, Conical Bottom with Stand									
	6	60 Gallon, Conical Bottom with Stand									
	8	85 Gallon, Conical Bottom with Stand									
	9	110 Gallon, Conical Bottom with Stand									
TANK MIXER: (Requires purchase of a Tank Above)	N	No Mixer									
	F	Propeller Mixer, 75 RPM Fixed Speed Motor									
	G	Paddlewheel Mixer, 75 RPM Fixed Speed Motor									
LEVEL CONTROL:	N	None - Manual Control System									
	C	Conductivity Level Control Sized to Tank Option									
OPTIONS:	XXX	No Options									
	FSW	Incoming Water Low Flow Cutoff Switch (<1 GPM Will Disable Neat Polymer Pump)									

A completed model should look like "PESMCBESDDNN-XXX"

Top View Manual



Automatic & Manual Dry Contact



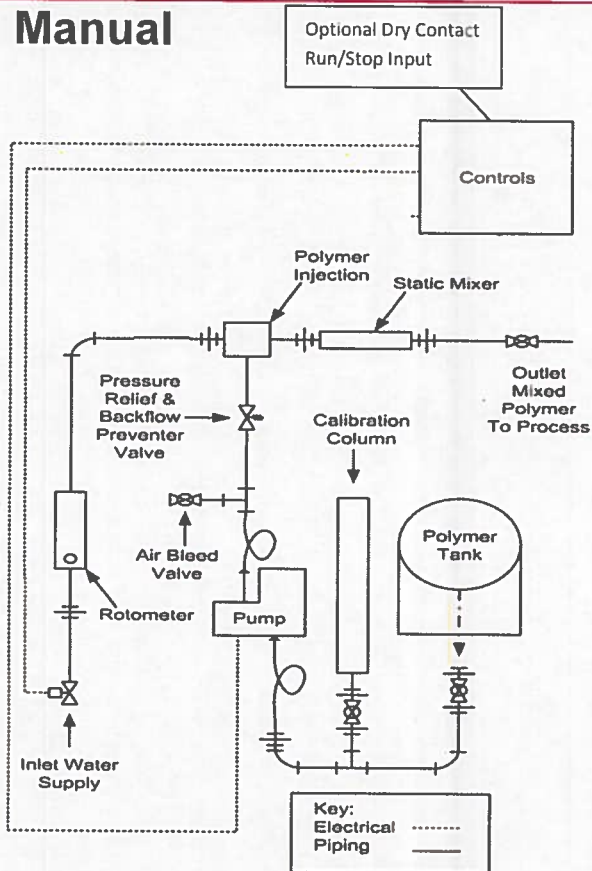


Specifications and Model Selection

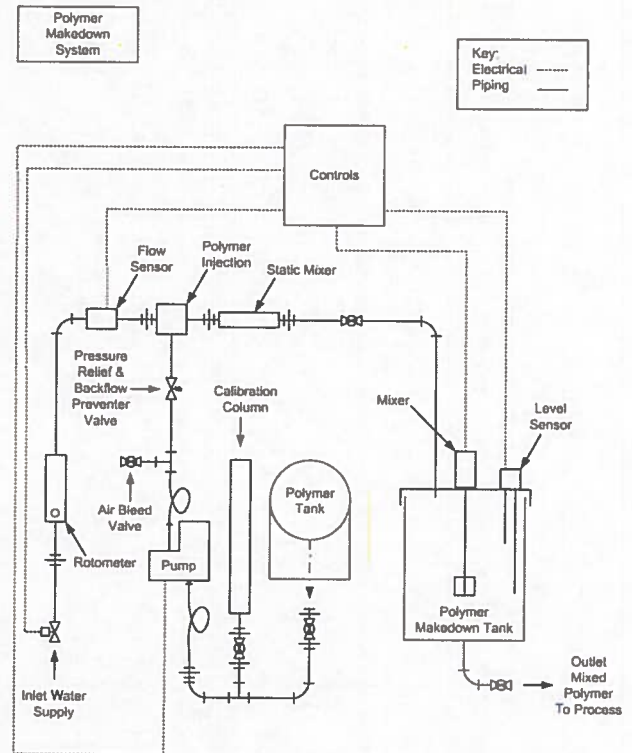
Water Flow Rate (GPM)	Neat Polymer Injection Pump Flow Rate (GPH) to Reach Percent Makedown																			
	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%	1.4%	1.6%	1.8%	2.0%	2.2%	2.4%	2.6%	2.8%	3.0%	3.2%	3.4%	3.6%	3.8%	4.0%
0.2	0.02	0.05	0.07	0.10	0.12	0.14	0.17	0.19	0.22	0.24	0.26	0.29	0.31	0.34	0.36	0.38	0.41	0.43	0.46	0.48
0.4	0.05	0.10	0.14	0.19	0.24	0.29	0.34	0.38	0.43	0.48	0.53	0.58	0.62	0.67	0.72	0.77	0.82	0.86	0.91	0.96
0.6	0.07	0.14	0.22	0.29	0.36	0.43	0.50	0.58	0.65	0.72	0.79	0.86	0.94	1.01	1.08	1.15	1.22	1.30	1.37	1.44
0.8	0.10	0.19	0.29	0.38	0.48	0.58	0.67	0.77	0.86	0.96	1.06	1.15	1.25	1.34	1.44	1.54	1.63	1.73	1.82	1.92
1.0	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.98	1.08	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	2.16	2.28	2.40
1.2	0.14	0.29	0.43	0.58	0.72	0.86	1.01	1.15	1.30	1.44	1.58	1.73	1.87	2.02	2.16	2.30	2.45	2.59	2.74	2.88
1.4	0.17	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	1.85	2.02	2.18	2.35	2.52	2.69	2.86	3.02	3.19	3.36
1.6	0.19	0.38	0.58	0.77	0.96	1.15	1.34	1.54	1.73	1.92	2.11	2.30	2.50	2.69	2.88	3.07	3.26	3.46	3.65	3.84
1.8	0.22	0.43	0.65	0.86	1.08	1.30	1.51	1.73	1.94	2.16	2.38	2.58	2.81	3.02	3.24	3.46	3.67	3.89	4.10	4.32
2.0	0.24	0.48	0.72	0.98	1.20	1.44	1.68	1.92	2.16	2.40	2.64	2.88	3.12	3.36	3.60	3.84	4.08	4.32	4.56	4.80
2.2	0.26	0.53	0.79	1.06	1.32	1.58	1.85	2.11	2.38	2.64	2.90	3.17	3.43	3.70	3.96	4.22	4.49	4.75	5.02	5.28
2.4	0.29	0.58	0.86	1.15	1.44	1.73	2.02	2.30	2.59	2.88	3.17	3.46	3.74	4.03	4.32	4.61	4.90	5.18	5.47	5.76
2.6	0.31	0.62	0.94	1.25	1.56	1.87	2.18	2.50	2.81	3.12	3.43	3.74	4.06	4.37	4.68	4.99	5.30	5.62	5.93	6.24
2.8	0.34	0.67	1.01	1.34	1.68	2.02	2.35	2.69	3.02	3.36	3.70	4.03	4.37	4.70	5.04	5.38	5.71	6.05	6.38	6.72
3.0	0.36	0.72	1.08	1.44	1.80	2.16	2.52	2.88	3.24	3.60	3.96	4.32	4.68	5.04	5.40	5.76	6.12	6.48	6.84	7.20
3.2	0.38	0.77	1.15	1.54	1.92	2.30	2.69	3.07	3.46	3.84	4.22	4.61	4.99	5.38	5.76	6.14	6.53	6.91	7.30	7.68
3.4	0.41	0.82	1.22	1.63	2.04	2.45	2.86	3.26	3.67	4.08	4.49	4.90	5.30	5.71	6.12	6.53	6.94	7.34	7.75	8.16
3.6	0.43	0.86	1.30	1.73	2.16	2.59	3.02	3.46	3.89	4.32	4.75	5.18	5.62	6.05	6.48	6.91	7.34	7.78	8.21	8.64
3.8	0.46	0.91	1.37	1.82	2.28	2.74	3.19	3.65	4.10	4.56	5.02	5.47	5.93	6.38	6.84	7.30	7.75	8.21	8.66	9.12
4.0	0.48	0.96	1.44	1.92	2.40	2.88	3.36	3.84	4.32	4.80	5.28	5.76	6.24	6.72	7.20	7.68	8.16	8.64	9.12	9.60
4.2	0.50	1.01	1.51	2.02	2.52	3.02	3.53	4.03	4.54	5.04	5.54	6.05	6.55	7.06	7.56	8.06	8.57	9.07	9.58	10.08
4.4	0.53	1.06	1.58	2.11	2.64	3.17	3.70	4.22	4.75	5.28	5.81	6.34	6.86	7.39	7.92	8.45	8.98	9.50	10.03	10.56
4.6	0.55	1.10	1.66	2.21	2.76	3.31	3.86	4.42	4.97	5.52	6.07	6.62	7.18	7.73	8.28	8.83	9.38	9.94	10.49	11.04
4.8	0.58	1.15	1.73	2.30	2.88	3.46	4.03	4.61	5.18	5.76	6.34	6.91	7.49	8.06	8.64	9.22	9.79	10.37	10.94	11.52
5.0	0.60	1.20	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00	6.60	7.20	7.80	8.40	9.00	9.60	10.20	10.80	11.40	12.00
5.2	0.62	1.25	1.87	2.50	3.12	3.74	4.37	4.99	5.62	6.24	6.86	7.49	8.11	8.74	9.36	9.98	10.61	11.23	11.86	12.48
5.4	0.65	1.30	1.94	2.59	3.24	3.89	4.54	5.18	5.83	6.48	7.13	7.78	8.42	9.07	9.72	10.37	11.02	11.66	12.31	12.96
5.6	0.67	1.34	2.02	2.69	3.36	4.03	4.70	5.38	6.05	6.72	7.39	8.06	8.74	9.41	10.08	10.75	11.42	12.10	12.77	13.44
5.8	0.70	1.39	2.09	2.78	3.48	4.18	4.87	5.57	6.26	6.96	7.66	8.35	9.05	9.74	10.44	11.14	11.83	12.53	13.22	13.92
6.0	0.72	1.44	2.16	2.88	3.60	4.32	5.04	5.76	6.48	7.20	7.92	8.64	9.36	10.08	10.80	11.52	12.24	12.96	13.68	14.40
6.2	0.74	1.49	2.23	2.98	3.72	4.46	5.21	5.95	6.70	7.44	8.18	8.93	9.67	10.42	11.16	11.90	12.65	13.39	14.14	14.88
6.4	0.77	1.54	2.30	3.07	3.84	4.61	5.38	6.14	6.91	7.68	8.45	9.22	9.98	10.75	11.52	12.29	13.06	13.82	14.59	15.36
6.6	0.79	1.58	2.38	3.17	3.96	4.75	5.54	6.34	7.13	7.92	8.71	9.50	10.30	11.09	11.88	12.67	13.46	14.26	15.05	15.84
6.8	0.82	1.63	2.45	3.26	4.08	4.90	5.71	6.53	7.34	8.16	8.98	9.79	10.61	11.42	12.24	13.06	13.87	14.69	15.50	16.32
7.0	0.84	1.68	2.52	3.36	4.20	5.04	5.88	6.72	7.56	8.40	9.24	10.08	10.92	11.76	12.60	13.44	14.28	15.12	15.96	16.80
7.2	0.86	1.73	2.59	3.46	4.32	5.18	6.05	6.91	7.78	8.64	9.50	10.37	11.23	12.10	12.96	13.82	14.69	15.55	16.42	17.28
7.4	0.89	1.78	2.66	3.55	4.44	5.33	6.22	7.10	7.98	8.88	9.77	10.66	11.54	12.43	13.32	14.21	15.10	15.98	16.87	17.76
7.6	0.91	1.82	2.74	3.65	4.56	5.47	6.38	7.30	8.21	9.12	10.03	10.94	11.86	12.77	13.68	14.59	15.50	16.42	17.33	18.24
7.8	0.94	1.87	2.81	3.74	4.68	5.62	6.55	7.49	8.42	9.36	10.30	11.23	12.17	13.10	14.04	14.98	15.91	16.85	17.78	18.72
8.0	0.96	1.92	2.88	3.84	4.80	5.76	6.72	7.68	8.64	9.60	10.56	11.52	12.48	13.44	14.40	15.36	16.32	17.28	18.24	19.20
8.2	0.98	1.97	2.95	3.94	4.92	5.90	6.89	7.87	8.86	9.84	10.82	11.81	12.79	13.78	14.76	15.74	16.73	17.71	18.70	19.68
8.4	1.01	2.02	3.02	4.03	5.04	6.05	7.06	8.06	9.07	10.08	11.09	12.10	13.10	14.11	15.12	16.13	17.14	18.14	19.15	20.16
8.6	1.03	2.06	3.10	4.13	5.16	6.19	7.22	8.26	9.29	10.32	11.35	12.38	13.42	14.45	15.48	16.51	17.54	18.58	19.61	20.64
8.8	1.06	2.11	3.17	4.22	5.28	6.34	7.39	8.45	9.50	10.56	11.62	12.67	13.73	14.78	15.84	16.90	17.95	19.01	20.06	21.12
9.0	1.08	2.16	3.24	4.32	5.40	6.48	7.56	8.64	9.72	10.80	11.88	12.96	14.04	15.12	16.20	17.28	18.36	19.44	20.52	21.60
9.2	1.10	2.21	3.31	4.42	5.52	6.62	7.73	8.83	9.94	11.04	12.14	13.25	14.35	15.46	16.56	17.66	18.77	19.87	20.98	22.08
9.4	1.13	2.26	3.36	4.51	5.64	6.77	7.90	9.02	10.15	11.28	12.41	13.54	14.66	15.79	16.92	18.05	19.18	20.30	21.43	22.56
9.6	1.15	2.30	3.46	4.61	5.76	6.91	8.06	9.22	10.37	11.52	12.67	13.82	14.98	16.13	17.28	18.43	19.58	20.74	21.89	23.04
9.8	1.176	2.352	3.528	4.704	5.88	7.056	8.232	9.408	10.584	11.76	12.936	14.112	15.288	16.464	17.64	18.816	19.992	21.168	22.344	23.52
10.0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18	19.2	20.4	21.6	22.8	24
Guide	LVB3	LVF4	LVG4	LVG5	LVH7	Not Covered by HV Pumps														

PNID and Dimensions

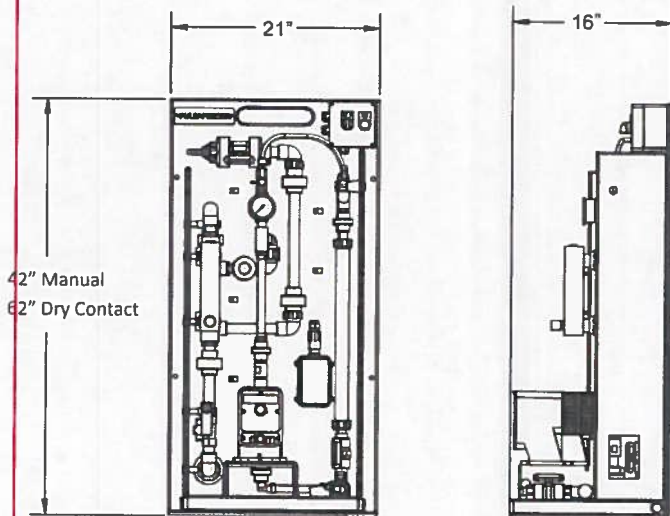
Manual



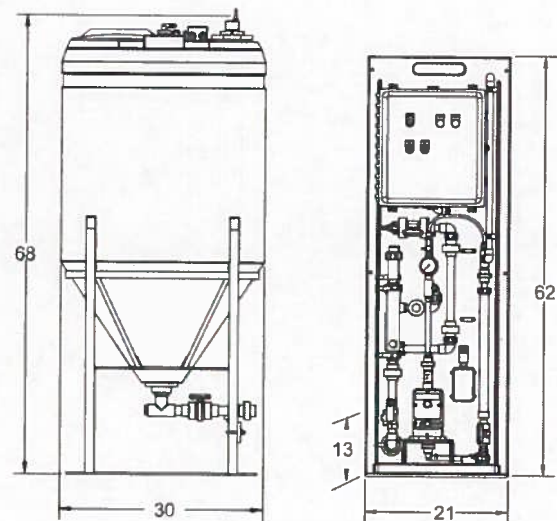
Automatic



Dimensions Manual



Automatic



pulsafeeder.com

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IDEX
CORPORATION

PMS001 E14



A Unit of IDEX Corporation

Installation, Operation and Maintenance Manual



Manual & Dry Contact Polymer Makedown Systems



A Unit of IDEX Corporation

Manufacturers of Quality Pumps,
Controls, and Systems

Standard Product Operations

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Pulsafeeder Factory Service Policy

Should you experience a problem with your Polymer Makedown System, first consult the troubleshooting guide in this operation and maintenance manual, as well as the information in the manual for your Pulsatron pump. If the problem is not covered or cannot be solved, please contact your local Pulsafeeder Sales Representative or Distributor, or our Technical Services Department for further assistance.

Trained technicians are available to diagnose your problem and arrange a solution. Solutions may include purchase of replacement parts or returning the unit to the factory for inspection and repair. All returns require a Return Authorization number to be issued by Pulsafeeder. Parts purchased to correct a warranty issue may be credited after an examination of original parts by Pulsafeeder. Warranty parts returned as defective which test good will be sent back freight collect. No credit will be issued on any replacement electronic parts.

Any modifications or out-of-warranty repairs will be subject to bench fees and costs associated with replacement parts.

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Installation, Operation and Maintenance Manual

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Installation, Operation and Maintenance Manual

Introduction

Congratulations! With the Pulsafeeder Pre-Engineered Polymer Makedown System, you have the finest polymer makedown equipment platform available. This system includes the essential elements for successful installation and operation of your system(s). You are encouraged to:

READ THIS MANUAL!

Pulsafeeder Pre-Engineered Polymer Makedown Systems are designed to support multi-pump installations for injection. The skid components (valves, gauges, interconnecting piping, etc.) are furnished to meet your specified operational requirements. The Dosing Pump(s), per se, may be furnished separately, so installation, operation and maintenance instructions for pump(s) are located elsewhere.

Installation, Operation and Maintenance Manual

Safety

Your safety is of the utmost concern to Pulsafeeder. Dosing pumps and systems can handle harsh or toxic chemicals and exposure can lead to serious injury or death. Always wear appropriate protective clothing (for example, safety glasses, gloves, coveralls, etc.) and follow safe handling procedures. Pay attention to what you're doing and note safety advisories where they are shown throughout this manual. Some examples of safety issues and precautions for Pulsafeeder Pre-Engineered Polymer Makedown Systems are:

**WARNING**

Do NOT use Pulsafeeder Systems (or Pulsafeeder Pumps) for flammable liquids.

**WARNING**

Prior to working on any portion of the System, disconnect pump(s) from power supply, de-pressurize the system and drain chemicals from the lines.

**WARNING**

Inspect tubing regularly and replace as necessary.

When inspecting tubing, wear protective clothing and safety glasses.

**CAUTION**

If skid is exposed to sunlight, use UV-resistant tubing.

**CAUTION**

Follow directions and warnings provided with chemicals from the chemical manufacturer. User/owner is responsible for determining chemical compatibility with chemical feed pump(s) and system components.

**CAUTION**

Secure chemicals, metering pump(s) and system, making them inaccessible to children, pets and unauthorized personnel.

**WARNING**

Always wear protective clothing including gloves and safety goggles when working on or near chemical metering pumps and systems.

**CAUTION**

Installation and start-up of chemical dosing system will require both mechanical (plumbing) and electrical work. Only qualified and licensed plumbers and electricians should perform this.

System Layout and Components

Figure 1, below, illustrates a static mixer polymer makedown system with integrated control. This system can be used for two different chemicals or for redundant pump operation with one chemical. Your skid system may be less complex than this. Note the various components and their descriptions as they apply to your system.



CAUTION

Never remove the Tank Cover without removing power to the Polymer Makedown System first. The tank mixer blades (inside the tank) can cause serious harm or even death if allowed to come in contact with a person during operation.

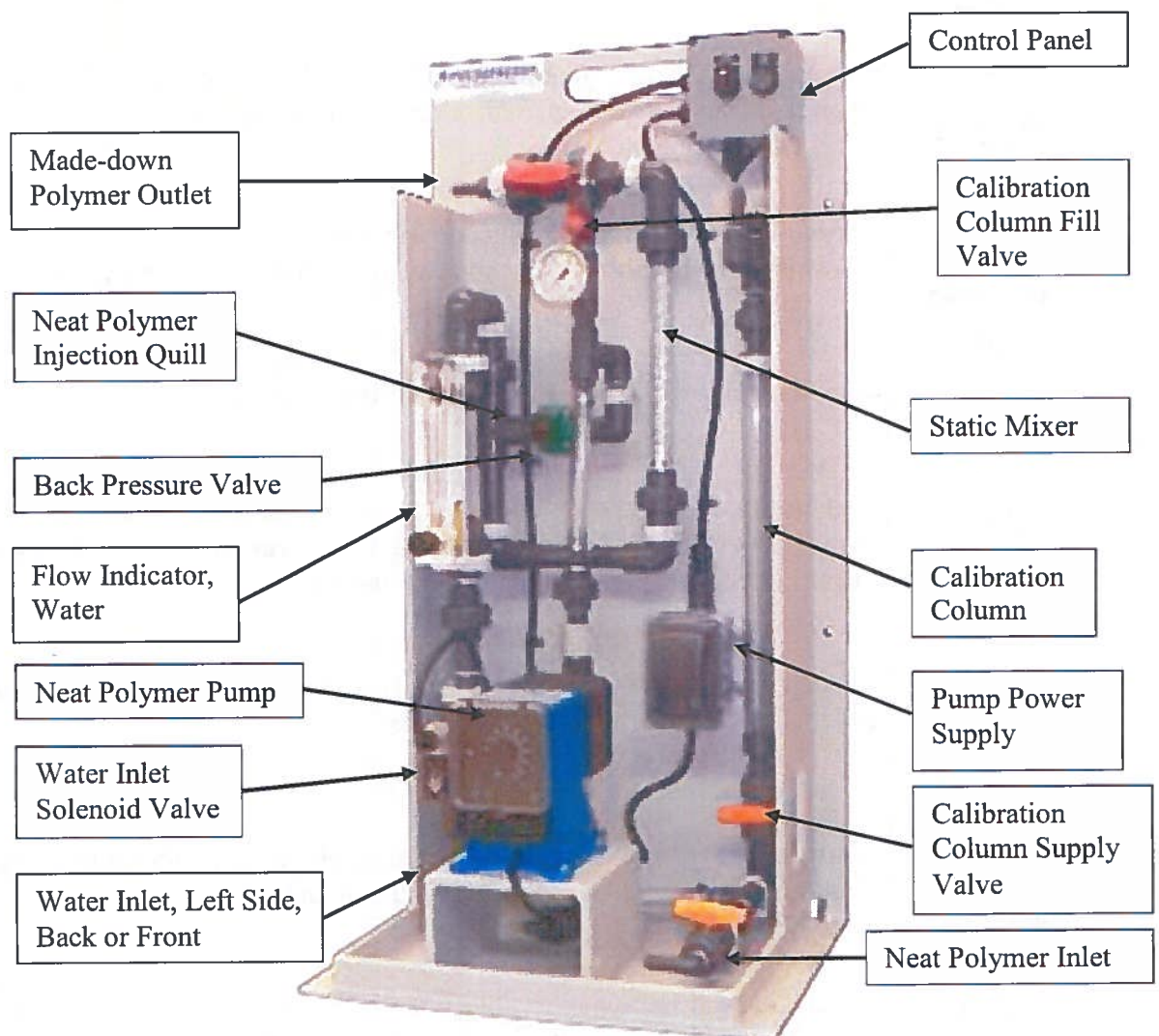


Figure 1

Installation, Operation and Maintenance Manual

Systems Overview

The Polymer Makedown System is designed to inject neat polymer into a clean water stream and to agitate this mixture through a static mixer causing the polymer strands to expand into a 'made-down' aqueous solution. The solution is stored in the polymer solution day-tank and mixed occasionally with the rotary mixer located in the tank. The tank outlet is typically connected to the dosing pump(s) which inject the solution into the process application. The dosing pump(s) are not provided with the Polymer Makedown System and are not powered by the System.

Supply Side

Dosing chemicals are usually sourced from a barrel or tote container. The source must be located above the centerline of the neat polymer pump which is referred to as a "flooded suction". Because Neat Polymer is a high viscosity fluid, the supply should never be located below the centerline of the pump(s) which is referred to as "suction lift." Connections to and from the Neat Polymer Tank are most commonly made with flexible hose or tubing although they may be made with hard piping. The Neat Polymer Tank should be covered to prevent contamination.

Flooded Suction

This is the most trouble free type of installation. Since the Supply Line tubing is filled with chemical, priming is accomplished quickly and the chance of losing prime is reduced.

Recommended for very low flow rate applications. e.g. 2 ml/hr, or where pumping solutions such as sodium hypochlorite or hydrogen peroxide which can form air bubbles.

Supply Line should gradually slope downward from the Solution Tank to the Skid Suction Connection.

It is strongly recommended to add a drain provision on the suction side to facilitate emptying and flushing of the system for maintenance.

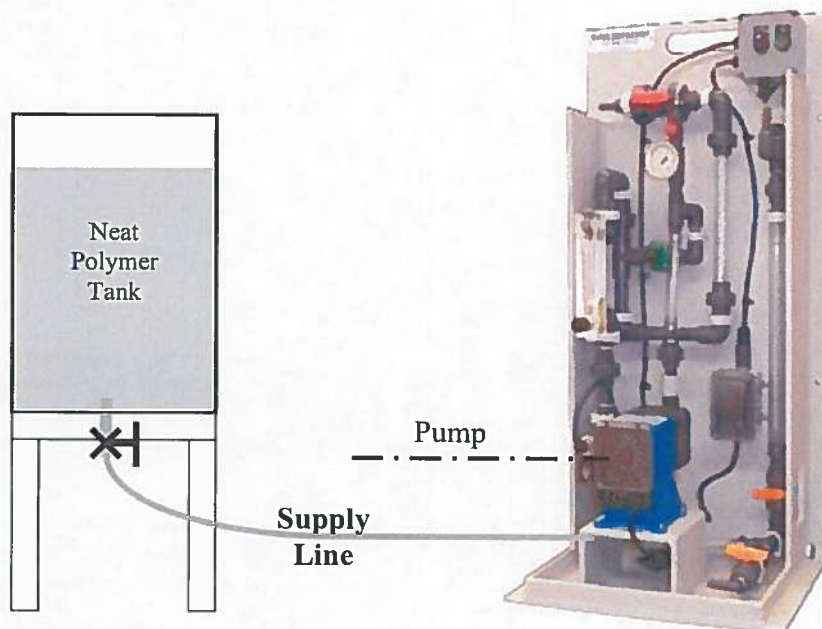


Figure 3
Flooded Suction

Process side

The Polymer Makedown System is not equipped with backflow prevention to protect against process fluid flowing back into the municipal water supply should the process pressure become greater than the water supply pressure. Please refer to all local, state and national codes for the proper backflow prevention requirements based on your type of installation.

Installation, Operation and Maintenance Manual

Installation

Prior to attempting installation, familiarize yourself with the layout and components furnished with your Pulsafeeder Polymer Makedown System. These vary from system to system – review the documentation supplied with your order. Inspect your system for damage which may have occurred during transit. If damage is discovered, immediately file a claim with the carrier and contact your Pulsafeeder distributor for any required replacement parts or components.

All systems (and pumps) have been tested with water at the factory.



CAUTION

Some dosing chemicals will react with water, e.g., acids, polymers, etc. Check MSDS for the chemical to be handled. If adverse reaction with water is indicated, ensure that all portions of the skid piping, its components (and the pump) are free from water prior to filling skid system with chemical.

Polymer Makedown Systems are to be floor-mounted only. Mounting holes are provided on the skid for floor mounting. Securely attach skid and the day-tank to the floor, in a position to prevent falling or tipping.

Securely attach the provided 3/4" x 1/2" diameter x 10' long tubing from the system's Made-down Polymer Outlet to the Day-tank's Made-down Polymer Inlet, on the hose barbs with the hose clamps provided; refer to Figure 1 on page 6. It is best to cut this tubing to the desired length prior to installation, and be sure to support the tubing adequately over its length as its weight will increase when filled with made-down polymer.

Installation area should provide ease of access to skid components (and pumps) and the area should be kept free of clutter to enable safe operation and maintenance.

Note that pumps/motors are designed for ambient temperatures of 104°F (40°C) **maximum**. It is preferable that skid systems (and pumps) be located out of direct sunlight. If skid system is exposed to sunlight, provide protection for the pump/motor to prevent overheating and UV damage.



CAUTION

If skid is exposed to sunlight, use UV-resistant tubing.

Owner-Installed Piping/Tubing

The next series of steps are the connection of your piping/tubing which include the neat polymer supply line and tank outlet for made-down polymer supply to the system.

These are your responsibility.



WARNING

Ensure that for all piping, tubing, fittings and other appurtenances, their materials are compatible with the liquid to be pumped and the design is suitable for the pressures and temperatures of the application. System design must ensure safety for operation and maintenance as well as for anyone who may be in proximity to the system. Failure to do so may result in damage to equipment, personal injury or death.

Installation, Operation and Maintenance Manual

Neat Polymer Supply Line

This line connects the source of the neat polymer to the Pulsafeeder Polymer Makedown System. Please refer to Figure 1 on page 6. The neat polymer source must be located above the centerline of the pump (flooded suction condition); ensure that the suction line has a gradual downward slope from the tank to the skid suction connection. The purpose of this is to prevent air pocket(s) in the suction line which could affect proper operation of the pump. Include whatever provisions you consider necessary to facilitate maintenance and operation such as isolation valve(s), drain and/or flush connections, etc., making sure that this sub-system enables **SAFE OPERATION**.

Discharge Line

This line connects the Pulsafeeder Polymer Makedown System to your served process. Please refer to Figure 1 on page 6. If the injection point is below the dosing chemical source or if injecting into a low pressure area such as the suction of a pump, an anti-siphon/ back pressure valve should be located as close as possible to the injection point to prevent unwanted chemical feeding. Include whatever provisions you consider necessary to facilitate maintenance and operation such as isolation valve(s), drain and/or flush connections, etc., making sure that this sub-system enables **SAFE OPERATION**.

Electrical Connection

The control panel is provided with a standard plug for connection to 115V (+/-10%), 20A power to operate. Be sure that the selector switch is in the "OFF" position before power is connected.

Manual System



Dry Contact Control Option



Initial Prime

The neat polymer pump must be primed before it can function within the system. This will require an initial start of the pump. It is recommended that the system piping be filled with water before polymer is introduced to the system. Dry contact systems should have the Function selector switch in Manual.

1. Turn the Main Selector Switch to the "Flush" position (center) to initiate water flow.
2. Once water fills the system and begins to flow out of the system discharge, turn the Main Selector Switch to the "OFF" position to terminate water flow.
3. Open the Calibration Column Fill Valve; this aids in pump priming by providing a vent path to the calibration column, bypassing the Back Pressure Valve.
4. Depress the green "Prime" button to start the Neat Polymer Pump.
5. Observe polymer flow through the clear braided tubing connecting the pump discharge to the system piping; when present the pump is primed.
6. Release the "Prime" button to stop the Neat Polymer Pump.
7. Close the Calibration Column Fill Valve.
8. The system is now ready to operate.

Polymer Makedown Process – Manual System (without Dry-Contact input)

- **Process Start**

This polymer makedown system utilizes a continuous makedown process. The makedown process is started by moving the Main Selector Switch to the “Run” position. This will open the Inlet Water Solenoid Valve and energize the Neat Polymer Injection Pump to add polymer to the water flow. The system will produce made-down polymer continuously while in the “Run” mode.

- **System Adjustment – Refer to Figure 1**

- The Water Flow Meter can be adjusted to achieve the desired water flow rate by turning the adjustment knob until the indicator ball settles on the correct flow rate.
- Open the Calibration Column Fill Valve to divert neat polymer to the calibration column until full; close the fill valve. Simultaneously open the Calibration Column Supply Valve at the bottom of the column while closing the Neat Polymer Inlet Valve, and time the drawdown of polymer from the column for 30 seconds. Record the volume consumed and simultaneously close the Calibration Column Supply Valve at the bottom of the column while opening the Neat Polymer Inlet Valve.
- Calculate the actual flow rate of the pump and adjust to the desired rate. Repeat the calibration process to confirm.
- Adjust pump output as required and repeat calibration process to confirm adjustment.

- **System Operation for Polymer Makedown**

- Turn the Main Selector Switch to the ‘Run’ position; leave in this position for the time required to produce the made-down polymer required.
- When complete, turn the Main Selector Switch to the ‘Flush’ position for approximately 1 minute. This allows incoming water flow to clean the injector nozzle and the static mixer of residual polymer.

CAUTION: Failure to flush the system could result in significant fouling of the injector nozzle, static mixer and related piping as the made-down polymer solidifies over time before the next cycle.

- When the flush operation is complete, turn the Main Selector Switch to the ‘Off’ position.

Polymer Makedown Process – Dry Contact input Manual System

- **Process Start**

This polymer makedown system utilizes a continuous makedown process. The makedown process is started by moving the Main Selector Switch to the “Run” position and moving the Function Selector Switch to the ‘Ext’ or External Input position. When the dry contact input circuit is closed, the Inlet Water Solenoid Valve will open and energize the Neat Polymer Injection Pump to add polymer to the water flow. The system will produce made-down polymer continuously while in the “Run” mode with the dry contact input closed.

- **System Adjustment – Refer to Figure 1**

- The Water Flow Meter can be adjusted to achieve the desired water flow rate by turning the adjustment knob until the indicator ball settles on the correct flow rate.
- Open the Calibration Column Fill Valve to divert neat polymer to the calibration column until full; close the fill valve. Simultaneously open the Calibration Column Supply Valve at the bottom of the column while closing the Neat Polymer Inlet Valve, and time the drawdown of polymer from the column for 30 seconds. Record the volume consumed and simultaneously close the Calibration Column Supply Valve at the bottom of the column while opening the Neat Polymer Inlet Valve.
- Calculate the actual flow rate of the pump and adjust to the desired rate. Repeat the calibration process to confirm.
- Adjust pump output as required and repeat calibration process to confirm adjustment.

- **System Operation for Polymer Makedown**

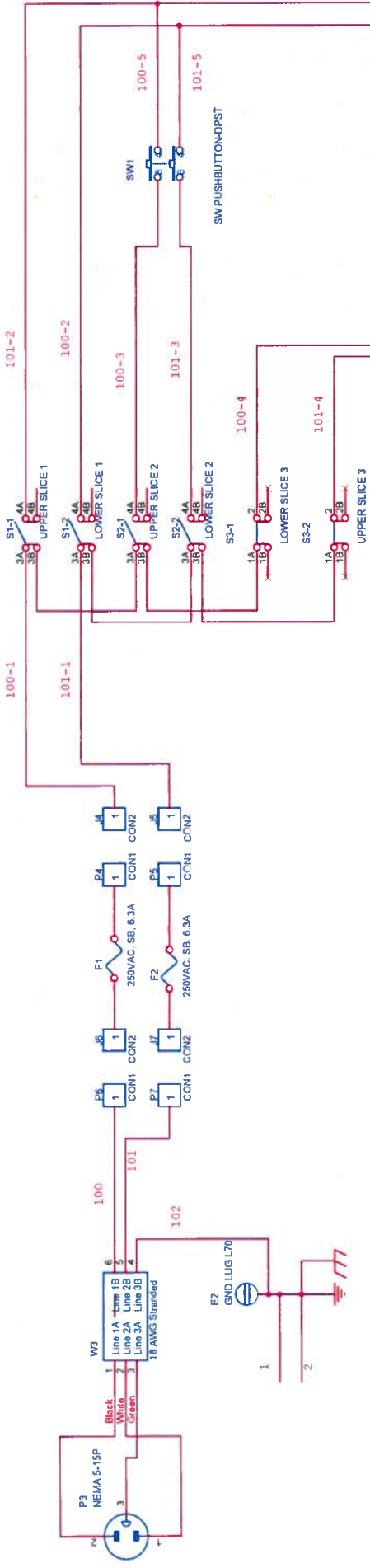
- Turn the Function Selector Switch to the ‘Ext’ position for External Input control, or to ‘Man’ for manual on/off control.
- Turn the Main Selector Switch to the ‘Run’ position; leave in this position to enable the external input for ‘Ext’ mode, or to start the system if in ‘Man’ mode.
- For ‘Ext’ mode, when the dry contact input circuit is closed, the system will produce made-down polymer.
- When the dry contact input circuit opens, the system will turn off the Neat Polymer Injection Pump and leave the Inlet Water Solenoid Valve open for 30 more seconds to flush the system. The system will automatically restart when the circuit is closed again.

Installation, Operation and Maintenance Manual

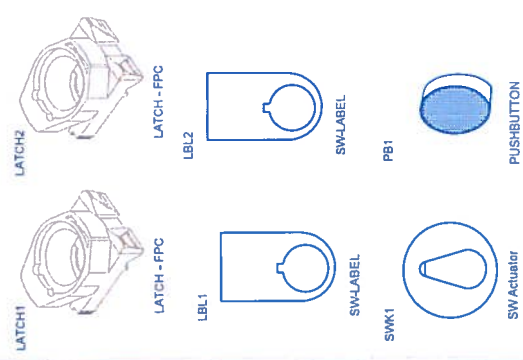
- If operating the system in manual mode, turn the Main Selector Switch to the 'Flush' position for approximately 30 seconds; this allows incoming water flow to clean the injector nozzle and the static mixer of residual polymer.

CAUTION: Failure to flush the system could result in significant fouling of the injector nozzle, static mixer and related piping as the made-down polymer solidifies over time before the next cycle.

- If in 'Man' mode, when the flush operation is complete, turn the Main Selector Switch to the 'Off' position.



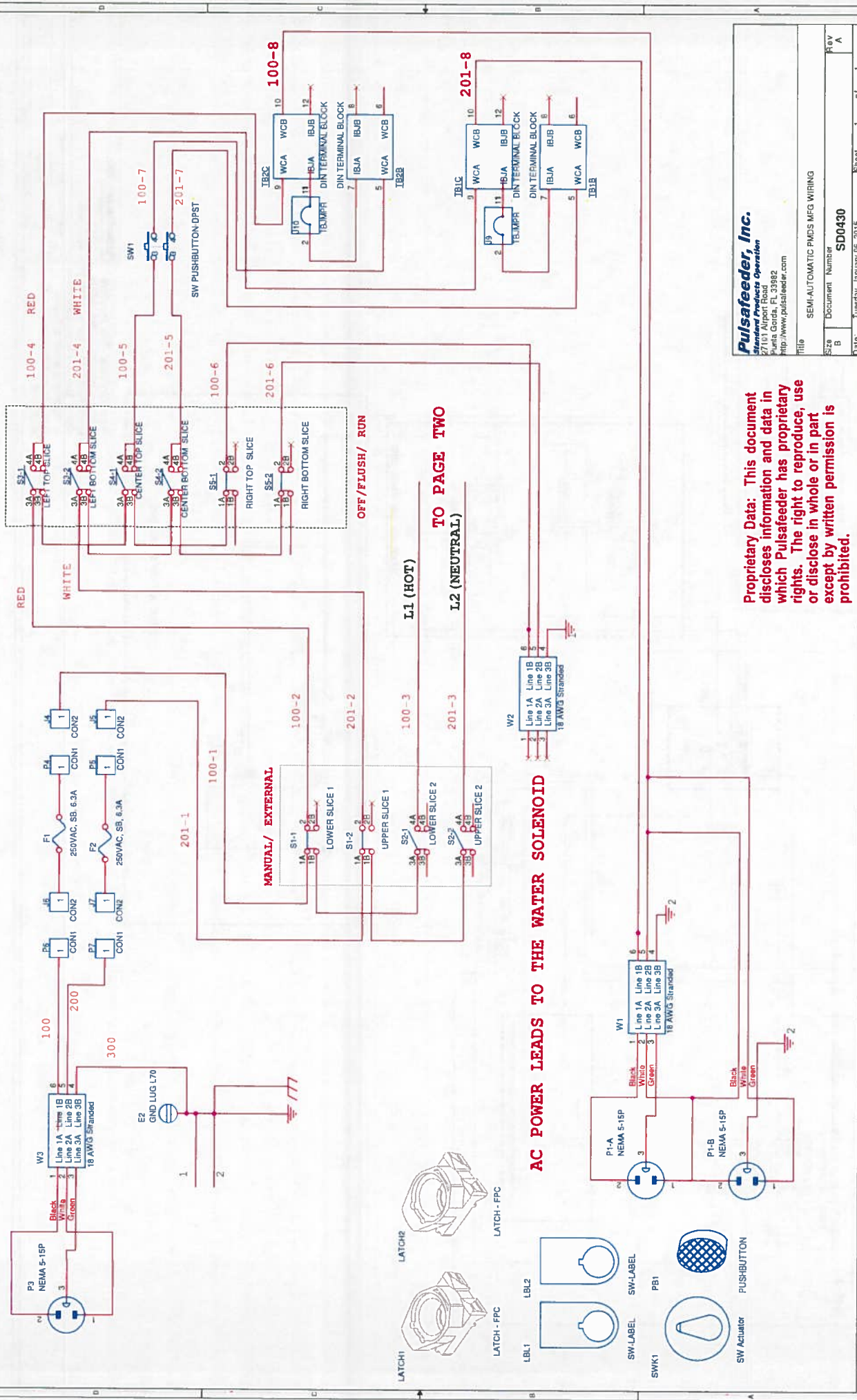
AC POWER LEADS TO THE WATER SOLENOID



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Title		Manual PMDS MFG WIRING	
Size	B	Document Number	16-995-01-1: SD0421
Page	1	Date	Monday, October 07, 2013
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Rev	A		



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Title			SEMI-AUTOMATIC PMDS MFG WIRING		
Size	Document	Number	SD0430		
B			Date: Tuesday, January 06, 2015		
Sheet			1 of 1		
Rev			A		

Jennifer Lee

From: raul naranjo <tripnsd@gmail.com>
Sent: Saturday, June 08, 2019 7:25 AM
To: JenniferLee
Subject: Fwd: City of Ely Influent Gate
Attachments: 1903044 scope R1.pdf

----- Forwarded message -----

From: **raul naranjo** <tripnsd@gmail.com>
Date: Tue, Apr 16, 2019 at 7:56 PM
Subject: Fwd: City of Ely Influent Gate
To: Bruce Ashby <bashby@elycity.com>

----- Forwarded message -----

From: **Brad Gwinnup** <bradg@wcubedinc.com>
Date: Tue, Apr 16, 2019 at 5:49 PM
Subject: RE: City of Ely Influent Gate
To: raul naranjo <tripnsd@gmail.com>

Raul,

Please see the attached quote. The price is \$5,317.00.

Let me know if you have any questions.

Respectfully,

Brad Gwinnup

W-Cubed INC.

2912 S. West Temple

Salt Lake City, UT 84115

Cell: (801)-232-8241

Office: (801)-466-3819

From: raul naranjo <tripnsd@gmail.com>
Sent: Tuesday, April 9, 2019 5:11 PM
To: Brad Gwinnup <bradg@wcubedinc.com>
Subject: City of Ely Influent Gate

Attached are the dimensions for the gate that we need, please let me know if we can get these changes.

Raul

801-440-2790



QUOTATION

DATE:	March 12, 2019	PAGES:	2
TO:	Austin Gwinnup	QUOTE NO.:	1903044 R1
FIRM:	W-Cubed Inc.	FROM:	Nick Weldon
PHONE:	801-446-3819	PHONE:	303-374-2179
JOB:	Utah Slide Gate – UT	EMAIL:	elangdon@hydrogate.com

Hydro Gate is pleased to offer a quotation for equipment as follows:

Item Number :	01
Qty/Size :	1 – 34" x 60"
Gate :	Fabricated Slide Gate with Aluminum frame and slide, stainless steel fasteners and mounting bolts. Self-contained frame, polymer bearing bars in guide grooves and rubber "j" seals.
Mounting :	Stainless steel anchor bolts.
Lift :	Yoke mounted geared crank lift with Type 304 Stainless Steel stem and plastic stem cover with mylar position indicator.
Frame Height:	7.5 (from centerline)
Gate Ship :	10-12 Weeks After Drawing and Credit Approval.
Price Each :	\$ _____

Total Price for items listed above: \$

The delivery lead times are based on stock inventory at the time of quotation. Stock quantities and quoted delivery times must be re-evaluated and verified at time of order and/or time of release to manufacturing.

Please see notes 1 through 13 in this quotation.



NOTES:

1. The above price includes freight to jobsite.
2. Drawings: 3-4 weeks after receipt of order.
3. Prices are good for 30 days from quote date. If this proposal is not accepted within 30 days Hydro Gate reserves the right to re-quote.
4. Please note these prices are based on receiving the entire order. Adjustments to item quantities or specifications may alter the pricing.
5. Prices do not include taxes.
6. Non-machined, submerged ferrous surfaces to be blast cleaned and painted with 2 shop coats of manufacturer's standard epoxy paint.
7. This quotation reflects our policy of sourcing raw materials in the most cost effective manner. Any requirement for specific U.S content shall require a revised quotation.
8. Prices do not include installation of gates and equipment or lubricants for stems, gear units and bearings.
9. Mastic, grout, gaskets and epoxy capsules for anchors not by Hydro Gate.
10. Upon placing an order with Hydro Gate, buyer must ensure that the approval of equipment be provided to Hydro Gate within 30 days of receiving submittals. Failure to do so may result in an increase of price in relation to market fluctuation of raw material costs.
11. Hydro Gate Standard Terms and Conditions of Sale apply to this quotation and can be found at www.hydrogate.com/support.
12. **This quotation is based on emailed information only; no specs, one sketch. Actual project requirements may affect your costs.**
13. Field service not included. If field service is needed, a charge of \$1,500.00 will be made for each trip, plus \$1,250.00 for each day including any holidays, weekends or other layovers made at the convenience of the contractor or engineer.